Master Student Opportunity

Cereal Pathology

University of Saskatchewan



General information	
Organization	Crop Development Centre, University of Saskatchewan
Position name	Graduate Student, M.Sc.
Location	Saskatoon
Position term	September 2022
Target levels	Students with a B.Sc. in agriculture, biology and related disciplines interested in plant pathology
Project title	*Phenotypic screening methods and a diagnostic seed test to assess bacterial leaf streak in Canadian wheat germplasm*
Overview	Bacterial leaf streak (BLS), also called black chaff when on the spikes, is an emerging disease that could become a major threat to cereal crops in Canada. The disease is caused by the bacterium *Xanthomonas translucens* that has become more common in the Prairie Provinces. Fungicides do not work with bacteria and resistance levels to the disease in Canadian wheat cultivars are unknown. The best way to avoid a BLS outbreak is to use clean seed, but an integrated approach is the most sustainable way of managing the disease. The work plan here aims to develop a seed testing protocol to detect the pathogenic bacteria on wheat kernels. This technology will have immediate application and will reduce production risks for farmers. A second objective aims to establish a BLS disease evaluation method to test germplasm under controlled conditions (greenhouse/growth chambers); this method will be used to identify sources or resistance in the development of commercial cultivars. Finally, our team plans to test the BLS resistance of registered wheat cultivars in field disease nurseries to detect less susceptible genotypes, which is critical information for farmers and seed growers.

Requirements and duties	
Qualifications	Graduates with acceptable marks to enter the College of Graduate Studies and Research. For international applicants, English language proficiency requirements are also necessary. Candidates need to meet **Admission requirements** for the Master of Science Program (USASK).
Duties and responsibilities	The student will conduct research on bacterial leaf streak of wheat within the Cereal and Flax Pathology program leading to a Master of Science degree. The research will involve testing phenotypic screening methods and developing a diagnostic seed test to assess bacterial leaf streak in Canadian wheat germplasm and could include various aspects of disease management depending upon the interest of the student.
How to apply	
Submission method	Contact Dr. Randy Kutcher, Cereal and Flax Pathology Crop Development Centre, Department of Plant Sciences College of Agriculture and Bioresources University of Saskatchewan 51 Campus Drive Saskatoon, S7N 5A8 Tel.: 306 966-4951 Email: randy.kutcher@usask.ca
Documents requested	Cover letter; Resume (references included); Unofficial university transcript. Please write in E-mail's subject: **BLS Master – Name of the applicant**
Application deadlines	Open until filled

For information about the University of Saskatchewan: **https://www.usask.ca/**
For information about the Master of Science Program at the University of Saskatchewan: **https://grad.usask.ca/programs/plant-sciences.php#Program**